

Signaling Frequency.

A frequency utilized for the addressing and control of pagers in the Advanced Messaging Service -- 930.0125, 930.2625, 930.5125 and 930.7625.

Signaling Station.

A station operating on a signaling frequency.

22.9 STANDARD APPLICATION FORM AND PERMISSIVE CHANGES OR MINOR MODIFICATIONS FOR PUBLIC MOBILE SERVICE.

* * *

(d) Permissive Changes or Minor Modifications of Authorization.

* * *

(8) Advanced Messaging Service

The items listed above, excluding (a)(2) of this section, apply to licensees operating on local channels in the 930 MHz Advanced Messaging Service. In addition, as to such operations, the following are considered permissive changes:

- (i) A change in or addition of a messaging frequency within the licensee's authorized frequency group.
- (ii) A change to or addition of a cell as long as the composite reliable service area remains totally within the authorized MSA or RSA.

Subpart B--Applications and Licenses

General Filing Requirements

22.15 TECHNICAL CONTENT OF APPLCIATIONS.

* * *

(i) In the Public Land Mobile Service each application shall contain, as appropriate, the following information:

* * *

(4) The provisions of §22.15(i)(2) shall not apply to applications to provide one-way Advanced Messaging Service on nationwide frequencies.

22.27 PUBLIC NOTICE PERIOD.

* * *

(b)(3) Applications for the local and nationwide frequencies in the Advanced Messaging Service shall be filed initially during a one-day filing period to be announced by public notice. After these applications have been processed and either dismissed or granted, the Commission shall announce by public notice a filing date for any remaining frequencies. From this filing date forward, applications shall be processed on a daily first-come, first-served basis.

22.29 OWNERSHIP CHANGES AND AGREEMENTS TO AMEND OR TO DISMISS APPLICATIONS OR PLEADINGS.

* * *

(c) The provisions of §22.29 do not apply to the 800 MHz Air-Ground Radiotelephone Service or the Advanced Messaging Service.

22.31

MUTUALLY EXCLUSIVE APPLICATIONS.

(a)(2) In the Advanced Messaging Service, applications for frequency groups shall be considered mutually exclusive if:

- (i) in the case of applications for nationwide frequencies, there are more applications filed during the initial filing window, or on a given day once the initial filing window has opened and closed, than can be accommodated on available nationwide frequencies in the 930 MHz band.
- (ii) in the case of applications for local frequencies, there are more applications filed during the initial filing window, or on a given day once the initial filing window has opened and closed, for frequencies within a particular MSA or RSA than can be accommodated on available frequencies in the 930 MHz band within that MSA or RSA.
- (iii) In the case of applications for nationwide frequencies, licensees shall be selected from among such mutually exclusive applications as are found acceptable for filing, and that conform with all applicable rule requirements, based upon comparative hearing or auction proceeding.
- (iv) In the case of applications for local frequencies, licensees shall be selected from among such mutually exclusive applications as are found acceptable for filing, and that conform with all applicable rule requirements, based upon a random selection procedure.

22.32

CONSIDERATION OF APPLICATIONS.

* * *

(e)(7) The application is mutually exclusive and entitled under §22.31(a)(2) to comparative consideration with another application or applications in the Advanced Messaging Service.

CONSIDERATIONS INVOLVING TRANSFER OF ASSIGNMENT APPLICATIONS.

* * *

(c) Advanced Messaging Systems.

(i) Except as indicated in paragraph (c)(ii) of this section, the Commission will not consent to the following:

(1) Any request to amend an application so as to substitute a new entity as the applicant;

(2) Any application to assign or transfer an authorization for local frequencies prior to the completion of construction of facilities; or

(3) Any application to assign or transfer an authorization for nationwide frequencies before the licensee has constructed at least % of the proposed nationwide system pursuant to the provisions of §22.528 of this part.

(ii) The Commission will grant the applications described in paragraph (c)(i) of this section if:

(1) The request to amend an application or to transfer or assign a license does not involve a substantial change in the ownership or control of the applicant; or

(2) The changes in the ownership or control of the applicant are involuntary due to the original applicant's insolvency, bankruptcy, or death.

(iii) A licensee may not partially assign any authorization in the Advanced Messaging Service until the authorized facilities have been constructed and placed in service.

Subpart C - Technical Standards

22.101 FREQUENCY TOLERANCE.

Frequency range MHz	All Fixed and Base stations	Frequency tolerance (percent)	
		Mobile stations and AMS units over 3 Watts	Mobile stations and AMS units 3 Watts or less
(C) 929 to 932	.00015	<u>.00025</u>	<u>.00025</u>

22.110 ANTENNA POLARIZATION.

* * *

(f) The provision of 22.110 do not apply to station in the 930 MHz Advanced Messaging Service and in the 800 MHz Air-Ground Radiotelephone Service.

Subpart D--Technical Operation

22.213 STATION IDENTIFICATION.

* * *

(f) Stations operating as local systems in the 930 MHz band Advanced Messaging Service may identify on the primary signaling channel when associated message delivery frequency are licensed as a group under a common call sign. Stations operating on nationwide channels and pagers are not required to identify.

Subpart G--Public Land Mobile Service

22.501 FREQUENCIES.

* * *

(p)(2) Specification of frequency in application.

(i) Non-Network.

An applicant for a new, non-network frequency in the band 929-932 MHz 931-932 MHz will not specify a frequency in its application. It may specify its non-network frequency preference, but the Commission is not bound by such requests.

(p)(3) For assignment to stations and pagers of communications common carriers for use exclusively in providing a one-way Advanced Messaging Service (center frequency of 25 kHz band). Groups A and C are to be licensed only for the provision of nationwide service by applicant or by a nationwide network organizer. Groups B and D are reserved for use only by local service providers.

<u>Group:</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>Signaling only:</u>	<u>930.0125</u>	<u>930.2625</u>	<u>930.5125</u>	<u>930.7625</u>
<u>Response (ack):</u>	<u>930.0375</u>	<u>930.2875</u>	<u>930.5375</u>	<u>930.7875</u>
<u>Messaging:</u>	<u>930.0625</u>	<u>930.3125</u>	<u>930.5625</u>	<u>930.8125</u>
	<u>930.0875</u>	<u>930.3375</u>	<u>930.5875</u>	<u>930.8375</u>
	<u>930.1125</u>	<u>930.3625</u>	<u>930.6125</u>	<u>930.8625</u>
	<u>930.1375</u>	<u>930.3875</u>	<u>930.6375</u>	<u>930.8875</u>
	<u>930.1625</u>	<u>930.4125</u>	<u>930.6625</u>	<u>930.9125</u>
	<u>930.1875</u>	<u>930.4375</u>	<u>930.6875</u>	<u>930.9375</u>
	<u>930.2125</u>	<u>930.4625</u>	<u>930.7125</u>	<u>930.9625</u>
	<u>930.2375</u>	<u>930.4875</u>	<u>930.7375</u>	<u>930.9875</u>

Applicants will specify frequency preference by group.

22.503 GEOGRAPHIC SEPARATION OF CO-CHANNEL STATIONS.

* * *

(d) The following table is used to determine the minimum required distance separation between stations in the 931 MHz band and between signaling and messaging stations operating on the local 930 MHz band frequencies in the Advanced Messaging Service.

* * *

(e) Licensees in the Advanced Messaging Service operating on local channels in the 930 MHz band shall coordinate proposed frequency usage with existing users in MSAs and RSAs within 70 miles of all base stations affected, and with applicants whose proposed facilities could affect or be affected by the new proposal in terms of intersystem frequency interference or restricted ultimate system capacity. This coordination requirement shall also apply to permissive changes (i.e. changes in frequency assignment not requiring prior Commission approval) within an MSA or RSA where the applicant is authorized to operate.

(i) All permittees, licensees and applicants shall cooperate fully and make reasonable efforts to resolve technical problems and conflicts that may inhibit the most effective and efficient use of the radio spectrum; however, the party being coordinated with is not obligated to suggest changes or reengineer a proposal in cases involving conflicts.

(ii) Where technical problems are resolved by an agreement or operating arrangement between the parties that would require special procedures to be taken to reduce the likelihood of intersystem interference or would result in a reduction of quality or capacity of either system, the applicant initiating the coordination process shall notify the Commission.

22.504 RELIABLE SERVICE AREA

* * *

(b)(2) The reliable service area (protected service) and interference area for one-way signaling stations in the 930 and 931 MHz bands is as follows:

* * *

22.505 ANTENNA HEIGHT-POWER LIMIT.

* * *

(c)(2) Stations operating on the 930 MHz band Advanced Messaging Service nationwide frequencies and 931 MHz nationwide paging frequencies, 931.8875, 931.9125 and 931.9375 MHz, may operate at a maximum of 3500 watts without antenna height limitation. Stations in the 930 and 931 MHz bands not operating on the 931 MHz nationwide paging frequencies may operate without regard to height-power reduction if the interference area of the proposed station does not exceed the interference area(s) of existing stations.

22.506 POWER.

* * *

(f)(4) Stations operating on the advanced messaging service 930 MHz nationwide channels may operate at a maximum of 3500 Watts ERP. Pagers may not exceed 10 watts ERP. Stations operating in the 930 MHz band may operate at a maximum of 3500 watts provided that the interference area of the proposed station does not exceed the interference area(s) of authorized stations.

22.509 PERMISSIBLE COMMUNICAITONS.

(a) Mobile Stations.

Mobile stations shall communicate with and through base stations only. Such communication between base and mobile stations, including Advanced Messaging Service pagers, shall be upon frequencies which are paired or grouped according to this part.

22.514 RESPONSIBILITY FOR OPERATIONAL CONTROL AND MAINTENANCE OF MOBILE UNITS.

* * *

(d) Any pager used in conjunction with operations in the Advanced Messaging Service which includes transmission capability will be considered to require compliance with all provision of this section.

22.525 ONE-WAY SIGNALING STATIONS.

* * *

(g) No licensee of a local frequency group in the Advanced Messaging Service may request an additional frequency group until the initial construction period for any previously authorized group of frequencies has expired.

22.528 POLICIES GOVERNING ASSIGNMENT OF FREQUENCIES IN THE 930 MHZ ADVANCED MESSAGING SERVICE.

(a) Entry criteria.

[To be determined.]

(b) Construction requirements.

[To be determined.]

(c) Licensees providing Advanced Messaging Services must use a high-speed, high-capacity digital encoding format and may provide any type of paging service desired (tone, tone-voice, digital, tactile, optical readout, etc.)

(e) Within each cell operating as part of an advanced messaging system within an authorized MSA or RSA, all radio channels must be trunked and, within the system, frequency reuse must be employed to achieve spectrum efficiency. As such, set of frequencies may be used in one cell and reused in a non-adjacent cell in another part of the system.

EXHIBIT 5

Proposed Part 90 Rules for Implementing AMS Service

EXHIBIT 5
Proposed Rules for Implementing AMS Service

Additions are in bold face and underlined (e.g. new)
Deletions are in italics (e.g. *old*)

PART 90--PRIVATE LAND MOBILE RADIO SERVICES

Subpart A--General Information

90.7 DEFINITIONS.

Advanced Messaging Service (AMS).

A one-way communication service or data distribution service utilizing extremely high capacity signaling formats in conjunction with frequency reuse transmitter topology to cover a specific MSA or RSA.

Base Station.

A station at a specified site authorized to communicate with mobile stations and pagers.

Cell.

The protected service area of an advanced messaging system signaling transmitter.

Messaging Frequency.

Any one of the eight frequencies in an advanced messaging system assigned for the transmission of messages to pagers in a cell.

Messaging Station.

A station operating on a messaging frequency.

Metropolitan Statistical Areas (MSA).

306 areas as defined in part 22 of this chapter for which application may be made to provide Advanced Messaging Services.

One-way Communications.

The unidirectional transmission of public initiated voice or data for reception and reproduction by an intended subscriber's receiver. In a one-way communications system, the incorporation of automatic encoding transmitters for the purposes of message acknowledgment does not render the communications service a two-way service.

Pager.

A portable receiver for paging communications, also known as a "beeper," which also may contain an acknowledgment transmitter, but which is not considered to be a mobile transmitter under the rules for this part.

Paging Service, Advanced Messaging Format.

Paging service in which the portable receiver is hailed by a signaling channel and directed to a specific frequency for the reception of encoded data. The receiver may incorporate an automatic encoding transmitter for the purposes of message acknowledgment.

Rural Service Area (RSA).

An area not included in a Metropolitan Statistical Area and which the Commission has specifically defined as an RSA for which application may be made to provide Advanced Messaging Services.

Signaling Frequency.

A frequency utilized for the addressing and control of pagers in the Advanced Messaging Service -- 930.0125, 930.2625, 930.5125 and 930.7625.

Signaling Station.

A station operating on a signaling frequency.

Subpart G--Applications and Authorizations

90.127 SUBMISSION AND FILING OF APPLICATIONS.

* * *

(d) Advanced Messaging Service pagers operating in the 930-931 MHz band are not considered to be mobile transmitters for purposes of paragraph (c) of this section.

(d) (e)

90.135 MODIFICATION OF LICENSE.

* * *

(b) The following changes in authorized stations do not require an application for modification of license.

* * *

(6) Notwithstanding other provisions of this section, changes to advanced messaging systems operating on local frequencies in the 930-931 MHz band, as follows:

(i) Request to delete or change antenna obstruction markings;

(ii) Construction and operation of additional transmitter locations on the same signaling frequency so long as the reliable service area is totally encompassed within the licensee's authorized MSA or RSA service area.

(iii) Modifications to signaling stations or messaging stations, provided the reliable service area is totally encompassed within the licensee's authorized MSA or RSA service area, including changes in power and antenna height.

(iv) A change in or addition of a messaging frequency within the licensee's authorized frequency group.

- (v) A change to or addition of a cell, provided the composite reliable service area remains totally within the authorized MSA or RSA.

90.143 GRANTS OF APPLCIATIONS.

* * *

(b) Except as provided in paragraph (c) of this section, all applications in pending status will be processed in the order in which the application acceptable for filing was received by the Commission; provided, however, that if there are more applications than can be accommodated on available frequencies, the Commission may grant the applications pursuant to the system of random selection prescribed in §1.972 of this chapter.

(c) If there are more applications for nationwide AMS frequencies than can be accommodated on available frequencies in the 930-931 MHz band, licensees will be selected based upon comparative hearing or auction proceedings.

(c) (d)

90.149 LICENSE TERM.

* * *

(d) Nationwide authorizations under subparts P and T of this part will be issued for a term not to exceed ten years from the original issuance, modification or renewal.

90.155 TIME IN WHICH STATION MUST BE PLACED IN OPERATION.

* * *

(d) For provisions relating to the construction and operation of AMS stations licensed in the 930-931 MHz band see subpart P.

Subpart H--Policies Governing the Assignment of Frequencies

90.175 FREQUENCY COORDINATION REQUIREMENTS.

* * *

(f) The following applications need not be accompanied by evidence of frequency coordination:

* * *

(16) Applications for frequencies in the 930-931 MHz band.

90.187 FREQUENCIES IN THE 930-931 MHz BAND.

(a) Frequencies in this band are licensed on a exclusive basis within an area defined by the boundaries of Standard Metropolitan Statistical Areas or Rural Service as defined in §90.7 of this part. Assignments of the frequencies and frequency groups listed in §90.495 shall be made so that a 70 mile separation distance is maintained between signaling stations authorized to unrelated entities.

(b) Licensees in the Advanced Messaging Service operating on local channels in the 930-931 MHz band shall coordinate proposed frequency usage with existing users in MSAs and RSAs within 70 miles of all base stations affected, and with applicants whose proposed facilities could affect or be affected by the new proposal in terms of intersystem frequency interference or restricted ultimate system capacity. This coordination requirement shall also apply to permissive changes (i.e. changes in frequency assignment not requiring prior Commission approval) within an MSA or RSA where the applicant is authorized to operate.

(i) All permittees, licensees and applicants shall cooperate fully and make reasonable efforts to resolve technical problems and conflicts that may inhibit the most effective and efficient use of

the radio spectrum; however, the party being coordinated with is not obligated to suggest changes or reengineer a proposal in cases involving conflicts.

- (ii) Where technical problems are resolved by an agreement or operating arrangement between the parties that would require special procedures to be taken to reduce the likelihood of intersystem interference or would result in a reduction of quality or capacity of either system, the applicant initiating the coordination process shall notify the Commission.

Subpart I--General Technical Standards

90.205 POWER.

* * *

(b) Except where otherwise specifically provided, the maximum power that will be authorized is as follows:

Frequency Range (MHz)	Maximum Output Power (watts)	Maximum ERP (watts)
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* * *

<u>930-931</u>	<u>(13)</u>	<u>(13)</u>
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* * *

(13) As specified in §90.495.

90.209 BANDWIDTH LIMITATIONS.

* * *

(g) For transmitters that operate in the frequency bands 450-512 MHz, 806-821 MHz, 851-866 MHz and 929-930 931 MHz and are not equipped with an audio low-pass filter in accordance with the provisions of §90.211(d)(1), the power of any emission shall be attenuated below the unmodulated carrier power (P) in accordance with the following schedule:

* * *

Subpart N--Operating Requirements

90.419 POINTS OF COMMUNICATION.

Normally, operations licensed under this part are intended to provide intrastation mobile communications. For example, a base station is intended to communicate with its associated mobile stations or pagers and mobile stations are intended to communicate between associated mobile stations and associated base station of the licensee. Accordingly, operations between base stations at fixed locations are permitted only in the following situations:

* * *

90.425 STATION IDENTIFICATION.

(a) Identification Procedure.

* * *

- (6) Stations operating as local systems in the 930-931 MHz Advanced Messaging Service may identify on the primary signaling channel when associated message delivery frequencies are licensed as a group under a common call sign. Stations operating on nationwide channels and pagers are not required to identify.

* * *

(d) General exemptions.

A station need not transmit identification if:

* * *

- (9) It is associated with operations of a nationwide AMS system authorized on exclusive channels in the 930-931 MHz band.

Subpart O--Transmitter Control

90.469 UNATTENDED OPERATION.

* * *

(c) Stations operating in the Advanced Messaging Service are authorized for unattended operation; and the transmitter control point requirements set out at §§90.463 through 90.465 shall not apply.

Subpart P--Paging Operations and Advanced Messaging Services

90.490 ONE-WAY PAGING AND ADVANCED MESSGAING OPERATIONS IN THE PRIVATE SERVICES.

* * *

(c) Paging and advanced messaging operations may be initiated directly from telephone positions in the public switched telephone network.

* * *

90.495 ONE-WAY ADVANCED MESSAGING SERVICE OPERATIONS IN THE 930-931 MHz BAND.

(a) The frequencies in the Table (center frequency of 25 kHz band) are available for exclusive assignment to all eligible Part 90 users for providing one-way advanced messaging services to representatives of Federal Government agencies, to persons eligible for licensing under subparts B, C, D or E of this part and to individuals. Groups A and C are to be licensed only for the provision of nationwide service to licensees or by nationwide network organizers. Groups B and D are reserved for use only by local service providers.

<u>Group:</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
<u>Signaling only:</u>	930.0125	930.2625	930.5125	930.7625
<u>Response (ack):</u>	930.0375	930.2875	930.5375	930.7875
<u>Messaging:</u>	930.0625	930.3125	930.5625	930.8125
	930.0875	930.3375	930.5875	930.8375
	930.1125	930.3625	930.6125	930.8625
	930.1375	930.3875	930.6375	930.8875
	930.1625	930.4125	930.6625	930.9125
	930.1875	930.4375	930.6875	930.9375
	930.2125	930.4625	930.7125	930.9625
	930.2375	930.4875	930.7375	930.9875

Applicants will specify frequency preference by group.

(b) Permissible communications include any communication related directly to imminent safety-of-life or property; in the case of service to persons eligible under subparts B, C, D or E of this part, any communications related and necessary to those activities which make them eligible; and in the case of individuals, all communications of a business or personal nature, without limitation.

(c) Licensees providing Advanced Messaging Services, as defined in §90.7, on these frequencies must use a high-speed, high-capacity digital encoding format and may provide any type of paging service desired (tone, tone-voice, digital, tactile, optical readout, etc.)

(d) Within each cell operating as part of an advanced messaging system within an authorized MSA or RSA, all radio channels must be trunked and, within the system, frequency reuse must be employed to achieve spectrum efficiency. As such, set of frequencies may be used in one cell and reused in a non-adjacent cell in another part of the system.

(e) There shall be no minimum or maximum loading standards for these frequencies.

(f) Stations operation on the 930-931 MHz nationwide advanced messaging frequencies may operate at a maximum of 3500 watts without antenna height limitation. Stations operating on the 930-931 MHz local advanced messaging frequencies may operate without regard to height-power reduction if the interference area of the proposed station does not exceed the interference area(s) of existing stations.

(g) The effective radiated power of base stations operating in the 930-931 MHz band shall not exceed 3500 watts.

(h) The effective radiated power of pagers operating in the 930-931 MHz band shall not exceed 10 watts.

(i) Entry criteria.

[To be determined.]

(j) Construction requirements.

[To be determined.]

(k) Considerations involving transfers or assignment of authorizations.

(1) Except as indicated in paragraph (k)(2) of this section, the Commission will not consent to the following:

(i) Any request to amend an application so as to substitute a new entity as the applicant;

(ii) Any application to assign or transfer an authorization for local frequencies prior to the completion of construction of facilities; or

(iii) Any application to assign or transfer an authorization for nationwide frequencies before the licensee has constructed at least _____ % of the proposed nationwide system pursuant to the provisions of §22.528 of this part.

(2) The Commission will grant the applications described in paragraph (k)(1) of this section if:

(i) The request to amend an application or to transfer or assign a license does not involve a substantial change in the ownership or control of the applicant; or

(ii) The changes in the ownership or control of the applicant are involuntary due to the original applicant's insolvency, bankruptcy, or death.

(3) A licensee may not partially assign any authorization in the Advanced Messaging Service until the authorized facilities have been constructed and placed in service.